

Listing of the Claims

1. (Currently Amended) X-ray detector ~~(40)~~ with detector elements ~~(1, 11)~~ arranged in a layer, wherein every detector element ~~(1, 11)~~ comprises a sensor unit ~~(5)~~ and a processing circuit ~~(4)~~ coupled thereto, and wherein a shielding ~~(3, 13)~~ of variable shielding effectiveness is disposed in front of the processing circuit ~~(4)~~.
2. (Currently Amended) X-ray detector ~~(40)~~ according to claim 1, ~~characterized in that~~ wherein the shielding ~~(3, 13)~~ has a variable effective thickness ~~(d1, d2)~~.
3. (Currently Amended) X-ray detector according to claim 1, ~~characterized in that~~ wherein a scintillator unit ~~(2, 12)~~ is disposed in front of each sensor unit ~~(5)~~.
4. (Currently Amended) X-ray detector according to claim 3, ~~characterized in that~~ wherein the scintillator unit ~~(2, 12)~~ and the shielding ~~(3, 13)~~ are arranged in a gapless way in a common layer.
5. (Currently Amended) X-ray detector according to claim 2, ~~characterized in that~~ wherein the shielding is formed as a section ~~(3, 13)~~.
6. (Currently Amended) X-ray detector according to claim 5, ~~characterized in that~~ wherein the section ~~consists of~~ comprises a spatially shaped strip ~~(3)~~.
7. (Currently Amended) X-ray detector according to claim 5, ~~characterized in that~~ wherein the section ~~(3)~~ is L-shaped.
8. (Currently Amended) X-ray detector according to claim 5, ~~characterized in that~~ wherein the section ~~(13)~~ is trapezoidal or triangular.
9. (Currently Amended) X-ray detector according to claim 1, ~~characterized in that~~ wherein material of the shielding ~~(3, 13)~~ contains at least one of the following substances: Pb, W, Mo, Ta, Ti, BaSO₄, BaCO₃, BaO, PbCO₃, PbCl₂, PbSO₄, TiO₂ and/or ZnO.

10. (Currently Amended) X-ray detector according to claim 9, ~~characterized in that~~
wherein said material is embedded in ~~a carrier, preferably an epoxy-resin carrier.~~

11. (Currently Amended) X-ray detector according to claim 1, ~~characterized in that~~
wherein the sensor units (5) and the processing circuits (4) are arranged in a common layer.

12. (Currently Amended) X-ray detector ~~(10)~~ with detector elements ~~(1, 11)~~ arranged
in a layer, ~~preferably X-ray detector according to claim 1,~~ comprising a layer of scintillator
units ~~(2, 12)~~ disposed in front of a layer of sensor units (5), the scintillator units ~~(2, 12)~~
being separated from each other by a shielding ~~(3, 13)~~ that has a high shielding
effectiveness with respect to X-rays and a high reflectivity with respect to photons
produced in the scintillator units ~~(2, 12)~~.